

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of storing context information in an outgoing message sent from a node including a computing device using a protocol stack having at least one layer, comprising:
 - providing, by the computing device, the outgoing message from an application to a layer of the protocol stack, the outgoing message is destined for an application on a destination node;
 - selectively indicating to the layer of the protocol stack that context information is to be obtained for that layer;
 - obtaining, by the computing device, context information in accordance with the indication; and
 - adding, by the computing device, the obtained context information to the outgoing message such that a response, received from the destination node, to the outgoing message contains the obtained context information, ~~the response is received from the destination node.~~
2. (Previously presented) The method of claim 1, further comprising adding context information obtained from a different protocol stack layer to the outgoing message.
3. (Previously presented) The method of claim 1, wherein the outgoing message is sent from the node is to a remote node across a network.
4. (Previously presented) The method of claim 1, used with a message-based communications system.

5. (Previously presented) The method of claim 1, wherein the step of obtaining context information obtains context information related to the outgoing message.

6. (Currently amended) The method of claim 1, wherein the step of adding the obtained context information appends the obtained context information to a separate field of the message.

7. (Previously presented) The method of claim 1, for use with a session initiation protocol (SIP) network.

8. (Currently amended) The method of claim 7, wherein the step of adding the obtained context information appends the obtained context information to a SIP TAG field.

9. (Currently amended) The method of claim 7, wherein the step of adding the obtained context information appends the obtained context information to a SIP extension header.

10. (Currently amended) The method of claim 1, further comprising adding, to the message, an indication associated with the obtained context data information where it is determined that the obtained context information data is potentially inaccurate or incomplete.

11. (Currently amended) A method of restoring the context information of a layer of a protocol stack of a node comprising:

receiving a message by a computing device;
determining, by the computing device, whether the context information of the layer is to be restored; and,
where it is so determined,

determining, by the computing device, the presence within the message
of context information relevant to the layer ~~within the message~~;
and
restoring, by the computing device, the context information of the layer
using the context information ~~from~~ within the message.

12. (Previously presented) The method of claim 11, wherein the step of determining determines whether the context information of the layer is to be restored based in part on the context information of the layer and in part on the received message.

13. (Previously presented) The method of claim 11, wherein the step of determining further comprises checking the existence at the layer of context information associated with the received message.

14. (Previously presented) The method of claim 11, wherein the step of determining further comprises checking whether the received message is an initial message.

15. (Previously presented) The method of claim 11, used with the session initiation protocol (SIP).

16. (Previously presented) The method of claim 15, wherein the step of restoring the context of the layer restores the context using context information stored in a SIP TAG.

17. (Previously presented) The method of claim 15, wherein the step of restoring the context of the layer restores the context using context information stored in a SIP extension header.

18. (Currently amended) A system for storing context information in an outgoing message sent from a node using a protocol stack having at least one layer, comprising:

a circuit for providing the outgoing message from an application to a layer of the protocol stack; the outgoing message is destined for an application on a destination node;

means for indicating to the layer of the protocol stack that context information is to be obtained for that layer;

a module for obtaining context information in accordance with the indication;

a circuit for adding the obtained context information to the outgoing message such that a response, received from the destination node, to the outgoing message contains the obtained context information; ~~the response is received from the destination node.~~

19. (Previously presented) A system according to claim 18, wherein the node is configured to add context information obtained from a plurality of protocol stack layers to the outgoing message.

20. (Previously presented) A system according to claim 18, wherein the outgoing message is sent from the node to a remote node across a network.

21. (Previously presented) A system according to claim 18, for use with a message-based communications system.

22. (Previously presented) A system according to claim 18, wherein the context information obtained is related to the outgoing message.

23. (Currently amended) A system according to claim 18, wherein the obtained context information is appended to a separate field of the outgoing message.

24. (Previously presented) A system according to claim 18, for use with a session initiation protocol (SIP).

25. (Original) A system according to claim 24, wherein the obtained context information is appended to a SIP TAG field.

26. (Original) A system according to claim 24, wherein the obtained context information is appended to a SIP extension header.

27. (Currently amended) A system according to claim 18, wherein an indication associated with the obtained context ~~data~~ information is added to the outgoing message, where it is determined that the obtained context data information is potentially inaccurate or incomplete.

28. (Currently amended) A system of restoring ~~the~~ context information of a layer of a protocol stack of a node comprising:

receiving means for receiving a message;

logic for determining whether the context information of the layer is to be restored;

a circuit for determining the presence, within the message, of context information relevant to the layer ~~within the message~~; and

restoration means for restoring the context information of the layer using the context information ~~from~~ within the message.

29. (Previously presented) A system according to claim 28, wherein the logic for determining is configured for determining based in part on the context information of the layer and in part on the received message.

30. (Previously presented) A system according to claim 28, wherein the logic for determining is configured for checking the existence at the layer of context information associated with the received message.

31. (Previously presented) A system according to claim 30, wherein the logic for determining is configured for checking whether the received message is an initial message.

32. (Previously presented) A system according to claim 28, for use with the session initiation protocol (SIP).

33. (Currently amended) A system according to claim 32, wherein the restoration means is configured for restoring the context information of the layer using context information stored in a SIP TAG.

34. (Currently amended) A system according to claim 32, wherein the restoration means is configured for restoring the context information of the layer using context information stored in a SIP TAG.

35. (Currently amended) A method of sending a message from a node through a hierarchical structure of one or more discreet layers comprising:

indicating to a layer that context information is to be obtained for that layer;

obtaining, by a computing device, context information in accordance with the indication; and

adding, by the computing device, the obtained context information to the message, such that a response to the message contains the obtained context information needed to restore a pre-switchover context of the layer.

36. (Currently amended) A method of restoring the context information of a layer of a hierarchical structure of discrete layers comprising:

receiving a message by a computing device;

determining, by the computing device, whether the context information of the layer is to be restored; and,

where it is so determined,

determining, by the computing device, the presence within the message of context information relevant to the layer ~~within the message~~; and

restoring, by the computing device, the context information of the layer using the context information within ~~from the~~ message.